



A.D. 1869, 13th May. N^o 1476.

S P E C I F I C A T I O N

OF

WILLIAM STEPHENSON.

CONSUMING SMOKE IN FURNACES.

LONDON:

PRINTED BY GEORGE E. EYRE AND WILLIAM SPOTTISWOODE,

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25, BOSTHAMPTON BUILDINGS, HOLBORN.

1869.



A.D. 1869, 13th MAY. N^o 1476.

Consuming Smoke in Furnaces.

(This Invention received Provisional Protection only.)

PROVISIONAL SPECIFICATION left by William Stephenson at the Office of the Commissioners of Patents, with his Petition, on the 13th May 1869.

I, WILLIAM STEPHENSON, of Sculcoats, in the County of York,
5 Engineer, do hereby declare the nature of the said Invention for “**IM-
PROVEMENTS IN APPARATUS FOR FACILITATING THE CONSUMPTION OF SMOKE IN
FURNACES,**” to be as follows :—

The object of this Invention is the consumption of smoke from
furnace fires when fresh fuel is inserted on the bars by an apparatus
10 put in motion by the action of the furnace door while being opened.

The Invention consists in fitting a cylindrical or other shaped reservoir
at or near the front of the furnace. In this reservoir I fit a vessel
having a valve opening inwards in the bottom of it. The upper part of
this vessel is connected to a series of rods and levers to a door or valve
15 set in the brickwork at or near the bridge at the back of the furnace.
There is a projection or a depending lever on the furnace door, when the
door is opened the projection comes against one of the rods and causes
the other rods and the levers to open the valve at the bridge. Air is

Stephenson's Improvements in Consuming Smoke in Furnaces.

then free to enter and mix with the smoke whereby the smoke becomes consumed ; at the same time the weighted end of one of the levers is raised which is in connection with the vessel by means of a cord or chain ; this allows the vessel to sink into the water in the reservoir and become partly filled with the water which enters through the valve. 5 When the furnace door is shut the weighted end of the lever descends and gradually closes the valve at the bridge. The speed at which the valve is closed is regulated by the outflow of the water which is allowed to escape from the vessel.

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